

What is claimed is:

1. A seat apparatus having a variable gap comprising:
a pair of seats that can move in the opposite directions;
a pair of moving plates each attached under the seats
5 to move in the opposite directions;
a base for supporting the moving plates so as to move
in the opposite directions;
a shaft rotatably attached on the upper side of the base;
a cylindrical gap controller attached in the middle of
10 the shaft, having a pair of guidance grooves that have one
end narrow and the other end wide;
driving means attached on one end of the shaft for
rotating the shaft;
a pair of connectors having the one ends coupled with
15 the guidance grooves on the gap controller and the other ends
fixed on the moving plates at the corresponding positions
to the guidance grooves of the gap controller; and
guiding means for making the moving plates move on the
base in the axial direction,
20 wherein gaps between the pair of the seats and the pair
of moving plates coupled with the guidance grooves through
a pair of connectors is adjusted by rotating the shaft
clockwise/counterclockwise with the driving means.
- 25 2. The seat apparatus of claim 1, wherein the guiding
means comprises a plurality of supporting blocks wherein their
one ends are slidably fixed underneath the above moving plates

and the other ends are assembled to the above shaft.

3. The seat apparatus of claim 1, wherein the guiding means comprises a pair of roller grooves formed parallel to the direction of the shaft on the upper section of the base in order to coordinate the path of movement of the moving plates with the direction of the shaft, and a plurality of rollers attached under the moving plates to be inserted in the roller grooves for the movement.

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4. The seat apparatus of claim 1, wherein the guiding means comprises the rails formed in the front and the back of the base and a plurality of rotating rollers attached on the moving plates at the corresponding positions to the rail for moving the rails.

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5. The seat apparatus of claim 1, further comprising at least one seat either in front or back of the base.

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6. The seat apparatus of claim 1, further comprising hinge units located the pair of seats and outside each ends of the above moving plates to form hinge joints, and buffering means attached between the seats and the moving plates.

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7. The seat apparatus of claim 6, wherein the buffering means comprises either leaf springs or coil springs.

8. A seat apparatus having a variable gap comprising:
two pairs of moving plates that can move independently
in the opposite directions;
two pairs of moving plates attached under the seats that
5 moves independently in the opposite directions;
a base for supporting the pairs of moving plates so as
to move independently in the opposite directions;
two shafts rotatably attached on the upper section of
the base;
10 two cylindrical gap controllers attached in the middle
of the shafts, having a pair of guidance grooves that have
one end narrow and the other end wide;
two driving means attached at one ends of the shafts
for rotating each shaft;
15 two pairs of connectors having the one ends coupled with
the guidance grooves on the gap controllers and the other
ends attached on the moving plates at the positions
corresponding to the guidance grooves of the gap controllers;
and
20 two guiding means that make the moving plates move along
the axial direction.
9. The seat apparatus of claim 8, wherein each of two
guiding devices comprises a plurality of supporting blocks
25 wherein their one ends are slidably fixed underneath the
above moving plates and the other ends are assembled to the
above shaft.

10. The seat apparatus of claim 8, wherein each of two guiding devices comprises two pairs of roller grooves formed parallel to the path of movement of each moving plate and a plurality of rollers attached under each moving plate that
5 are inserted in the roller grooves to slide the moving plates over the base.